Overview of Transfer Effects: What are they and why should we care?

Dale Squires
NOAA Fisheries
Southwest Fisheries Science Center

July 16, 2013

What Are Transfer Effects?

Will largely discuss in terms of west coast swordfish fisheries

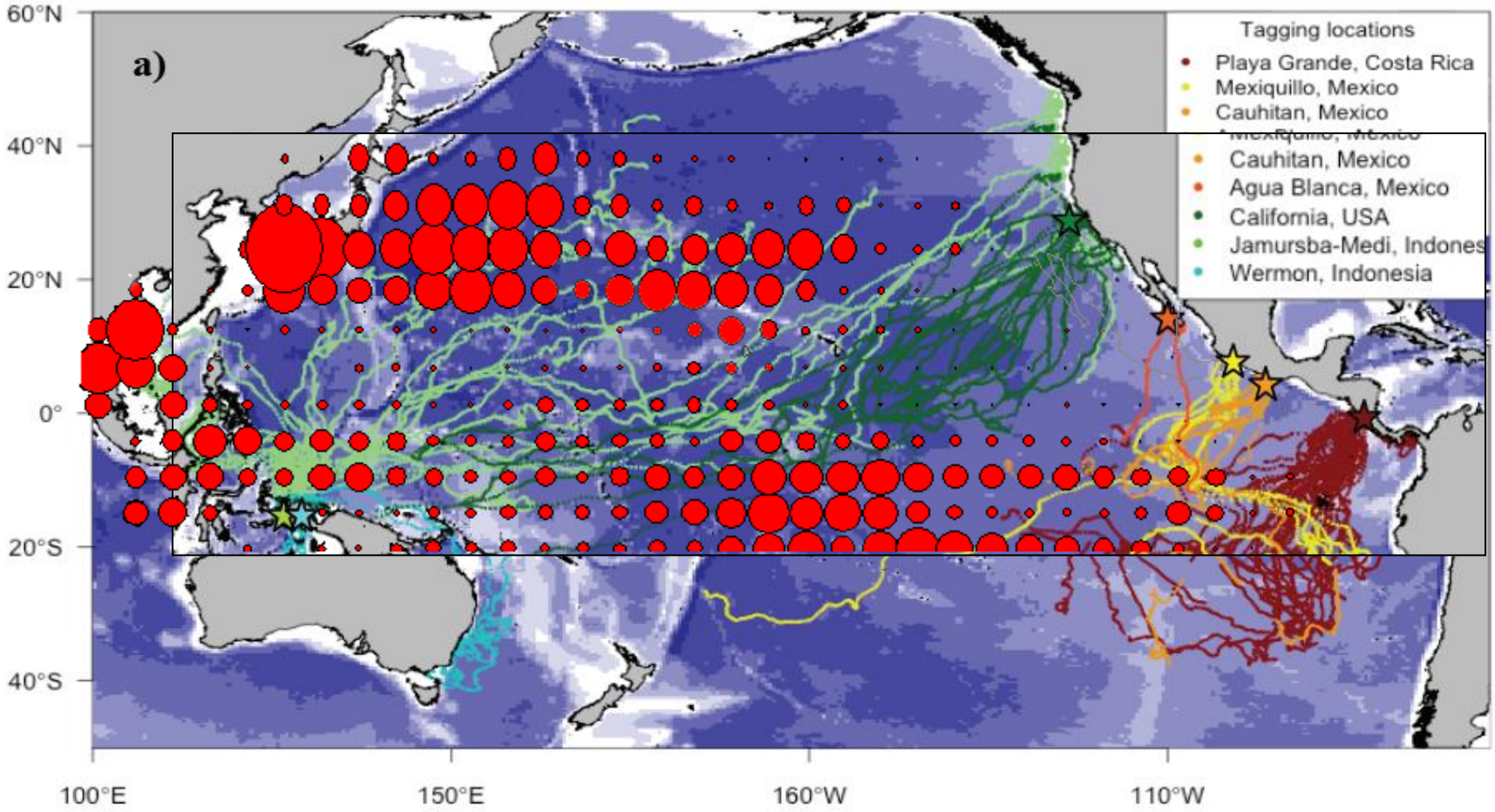
Concrete fishery discussion easier

But broad points valid

Background

- Transboundary resource
  - Fish stock that extends beyond national EEZs and even onto high seas
  - Swordfish, temperate and tropical tunas
- U.S. consumer demand for swordfish filled by *both* U.S. production and foreign production imported into U.S.

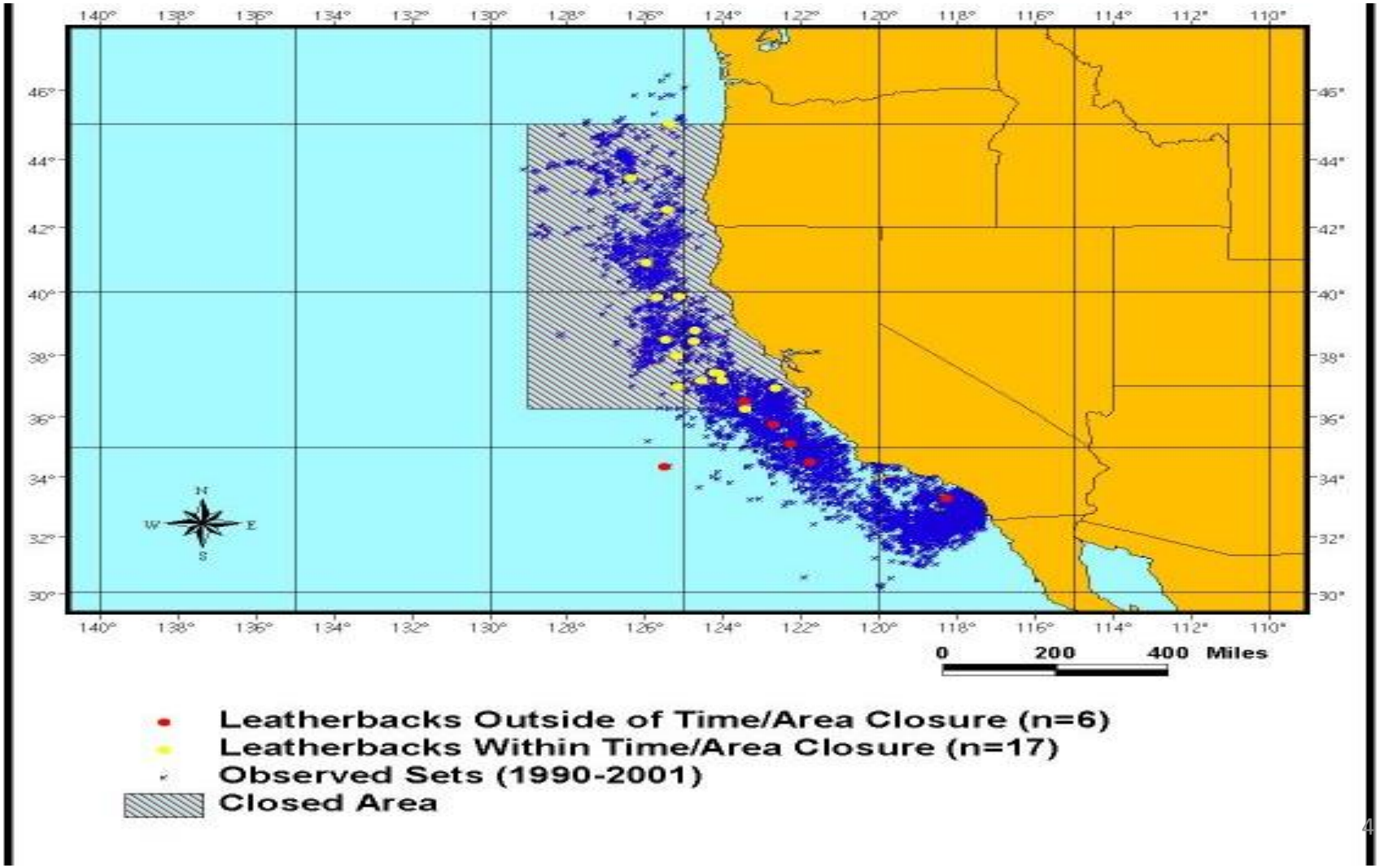
Leatherback Turtles Running the Gauntlet



Red circles = swordfish catch

Green squiggles = turtle migration

West Coast EEZ Swordfish Closed Area



3 Effects of Restricted Swordfish Production in U.S. EEZ…(1)

- 1. U.S. consumption gap filled by imports
  - "Trade leakage"
- 2. Production of swordfish shifted abroad
  - "Production leakage"

3 Effects of Restricted Swordfish Production in U.S. EEZ…(2)

- 3. Net increase in sea turtle mortality per pound swordfish from production shifted abroad and imports
  - Lower leatherback sea turtle takes per pound swordfish within U.S. EEZ
  - Higher leatherback sea turtle takes per pound swordfish outside U.S. EEZ
- **"Transfer effects"**

Why Should We Care?

1. Sea Turtle Transfer Effects

- Lowers U.S. consumer welfare through loss in "existence value"

2. Swordfish Import Losses

- 1. Raises import bill,
- 2. Lowers GNP/GDP,
- 3. Uses foreign exchange

3. Hawaiian Production Leakage

- Some reduced west coast consumption filled by imports from Hawaii
- Does not necessarily reduce overall sea turtle mortality
  - Because Endangered Species Act governs both fisheries
  - Sea turtle bycatch cap regulates Hawaiian fishery.

4. Foreign Production Leakage

- Reduced local swordfish production increases imports to fill consumption gap

5. West Coast Swordfish is Luxury Good

- Recent statistical analysis of west coast seafood demand shows that locally caught, fresh swordfish is "luxury good"
  - U.S. consumers value more than "normal good" as income increases
- Hawaii caught are "normal good"
- Imports are "normal good"

6. Lower U.S. Consumer Welfare

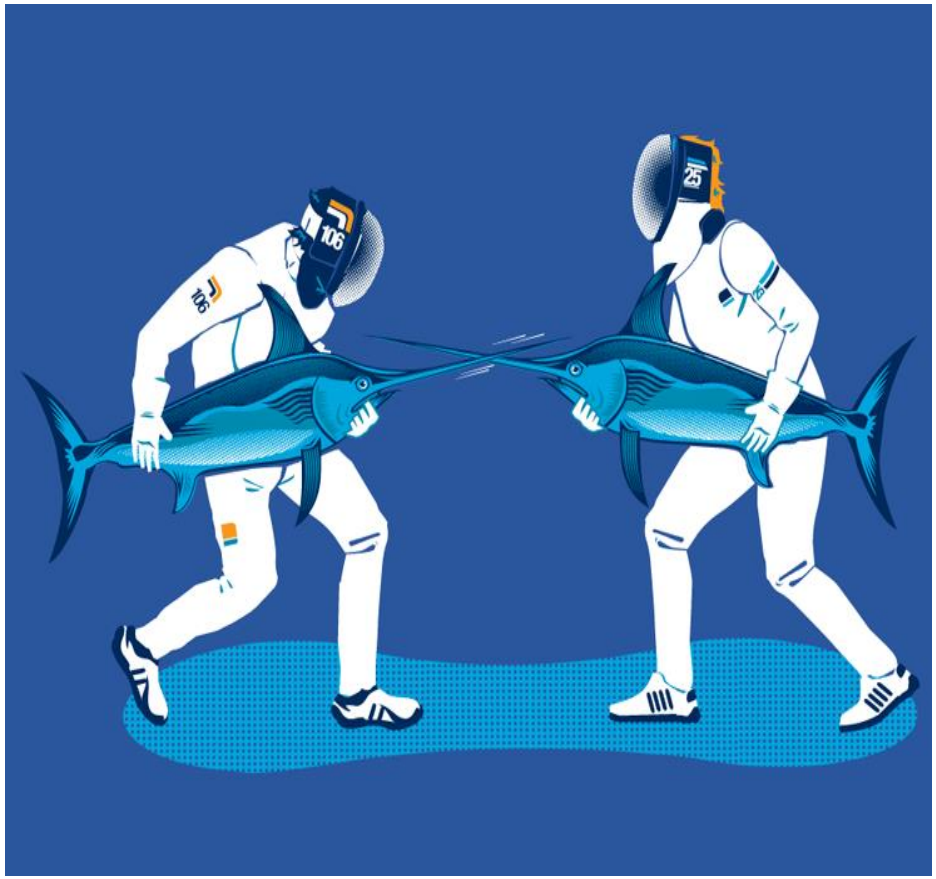
- Reduced U.S. consumer welfare from lower west coast caught swordfish replaced by imports

7. Drift Gillnet & Harpoon Swordfish are Distinct Markets

- Recent statistical analysis of west coast consumer demand shows:
- 1. drift gillnet-caught swordfish and higher quality harpoon-caught swordfish serve two different markets
- 2. consumers do not substitute one for the other

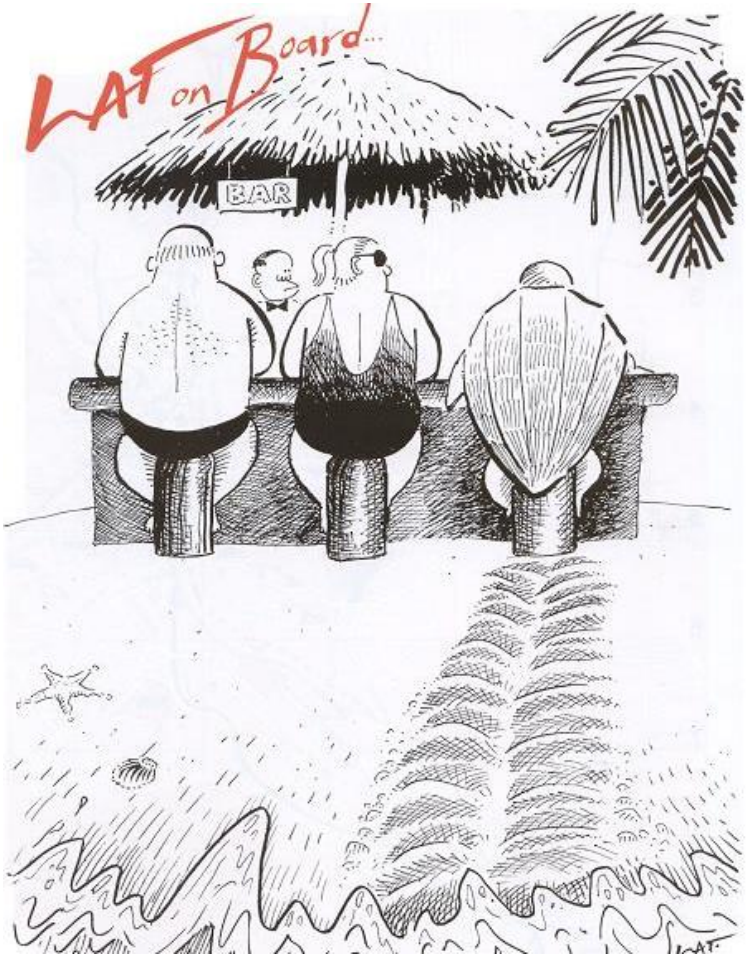
8. Lower Profits U.S. Fishers

- Reduced west coast swordfish production lowers their profits
- Partially countered by swordfishers shifting production into other fisheries



9. Reduced Employment & Incomes Local Fishing Communities

- Lower swordfish landings reduce employment and incomes of:
  - crew,
  - support industries,
  - supply chain
- Multiplier effects throughout community



10. Increased Employment, Income, & Profits of Importers

- Counterbalances west coast losses
- Don't know to what extent
- Best guess is net loss for west coast

Net Impact…(1)

- Net total U.S. welfare loss from unilateral conservation of transboundary resource
- U.S. worse off because of production and trade leakages and transfer effects

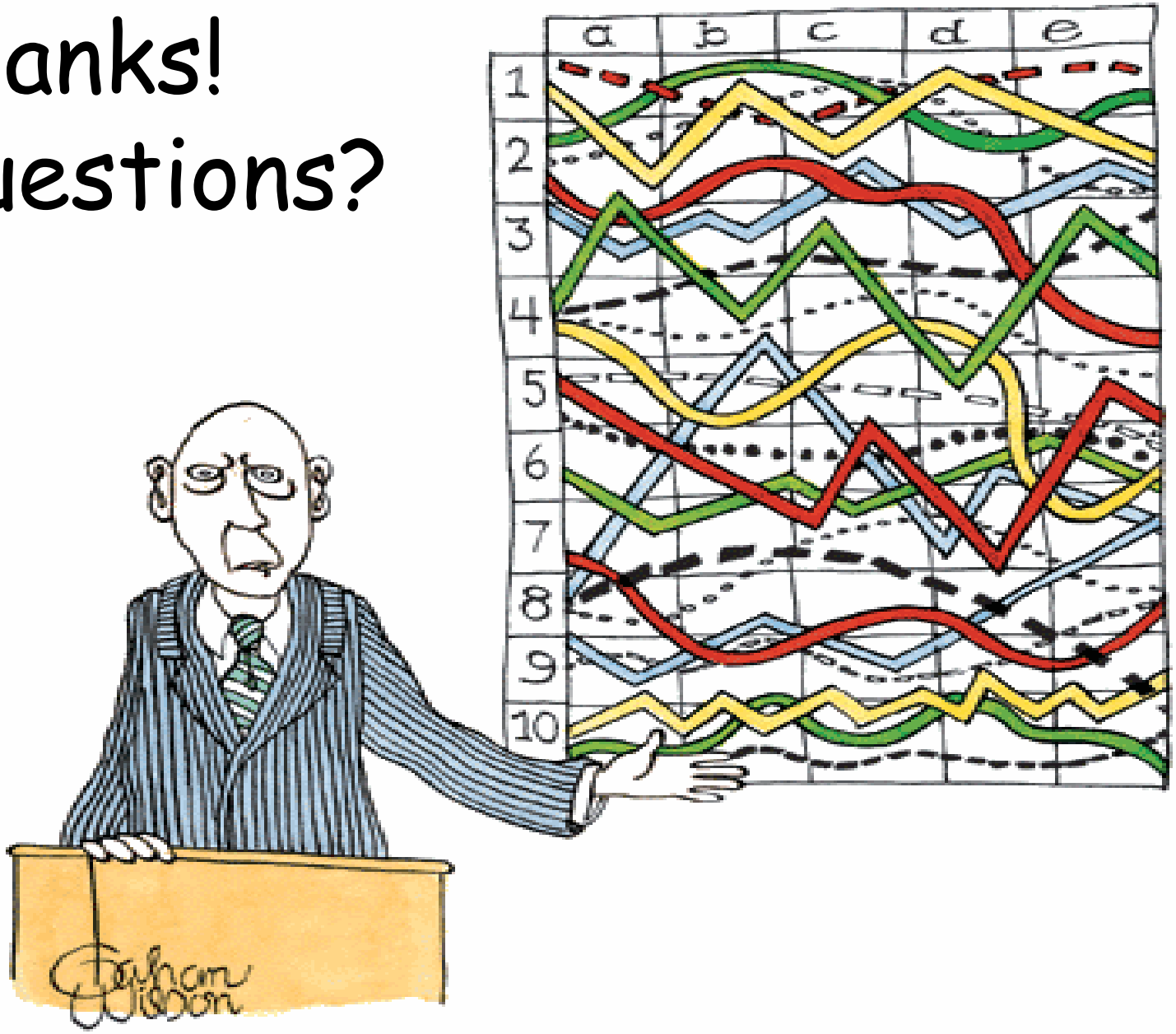
Net Impact…(2)

- Lower consumer welfare due to reduced locally caught swordfish replaced by imports
- Lower profits of U.S. fishers
- "Probably" reduced incomes, employment, profit in supply chain
  - Imports counterbalance local losses by unknown extent

Net Impact…(3)

- Reduced net conservation
  - Transfer effects
  - Lower U.S. sea turtle hooking rates per pound swordfish compared to foreign fleets

Thanks!
Questions?



"I'll pause for a moment so you can let this information sink in."